

REMARKS/ARGUMENTS

Favorable reconsideration of this application in light of the following discussion is respectfully requested.

Claims 1, 4, 6-7, 11 and 13 are pending in the application. No claim amendments are presented, thus, no new matter is added.

In the Office Action, Claims 1, 4, 6-7, 11 and 13 were rejected under 35 U.S.C. §103(a) as unpatentable over Trossen et al. (U.S. Pat. 7,054,643, herein Trossen) in view of Petrus et al. (U.S. Pub. 2004/0063406, herein Petrus). Applicants respectfully traverse this rejection as independent Claims 1 and 4 recite novel features clearly not taught or rendered obvious by the applied references.

Independent Claim 1 recites a radio communication system for performing multicast communication, comprising:

a reception ability value collector configured to collect a reception ability value of each mobile station belonging to a specific multicast group, *wherein the reception ability value defines at least one of a demodulation method, a reception buffer size, a number of bits or codes that a processor can process per one operation, an error correction method and an interleaving length;*

a transmission method determiner configured to determine a transmission method of transmitting information in accordance with the collected reception ability value...

wherein the transmission method determiner determines the transmission method in accordance with the reception ability value and the available radio resources, so that *a mobile station equipped with a lowest reception ability can receive the information using the determined transmission method.*

Independent Claim 4, while directed to an alternative embodiment, recites similar features. Accordingly, the remarks and arguments presented below are applicable to each of independent Claims 1 and 4.

Turning to the applied reference, Trossen describes a node for transmitting multicast data over a wireless channel and determining a data rate for such a transmission. Trossen

describes that the node 207 receives a measured signal-to-noise ratio (SNR), or similar quality measure, reported using signaling messages from a wireless terminal 101.<sup>1</sup> The node 207 manages available frequency spectrum (i.e. resources) for multicast services, and groups wireless terminals having approximately equal SNR measurements, in accordance with the received SNR measurements.<sup>2</sup> Then, the node 207 determines a corresponding maximum data rate for each group, which is formed by a plurality of wireless terminals having approximately equal SNR measurements.<sup>3</sup>

As admitted in the Office Action, however, Trossen fails to teach or suggest using a collected reception ability value defining “at least one of a demodulation method, a reception buffer size, a number of bits or codes that a processor can process per one operation, an error correction method and an interleaving length” of the mobile stations in the group to determine a transmission method for the group, as recited in Claims 1 and 4.

Further, in Trossen, the node 207 transmits multicast data using the same transmission method (e.g., 16 QAM) to a plurality of wireless terminals having approximately similar SNR measurements. Therefore, among the plurality of wireless terminals, some wireless terminals equipped with the lower reception ability value (e.g., QPSK) can not receive the multicast data transmitted by 16 QAM. This is because the SNR measurement is mainly influenced not by a “reception ability value” of each wireless terminal, but by the propagation conditions between the base station and each wireless terminal.

Therefore, Trossen also fails to teach or suggest “determining the transmission method in accordance with *the reception ability value*... so that *a mobile station equipped with a lowest reception ability can receive the information using the determined transmission method*,” as recited in independent Claims 1 and 4.

---

<sup>1</sup> Trossen, col. 5, ll. 11-15 and col. 12, ll. 43-46.

<sup>2</sup> Id., col. 6, ll. 16-20.

<sup>3</sup> Id., col. 5, ll. 23-26, col. 6, ll. 21-24, Fig. 9 step 905, and col. 12, ll. 51-55.

In an attempt to remedy the above noted deficiency that Trossen fails to teach or suggest the claimed details regarding the “reception ability value,” the Office Action relies on Petrus, and asserts that it would have been obvious to one of ordinary skill in the art at the time of the invention to combine the cited references to arrive at Applicants’ claims. Applicants respectfully traverse this rejection, as Petrus fails to teach or suggest the claimed features for which it is asserted as a secondary reference under 35 U.S.C. §103.

Petrus describes a method and apparatus for link adaptation that selects a transmission mode based on a quality of a transmitted signal and available power for transmission.<sup>4</sup> More particularly, Petrus describes that a base station receives the quality of a signal received at the remote terminal, and receives information regarding the available power at the remote terminal.<sup>5</sup> The base station also determines the transmission mode (i.e. transmission method) such as a modulation class or mod class in accordance with the received signal quality and available transmission power.<sup>6</sup>

As with Trossen, however, Petrus fails to teach or suggest using a collected reception value defining “*at least one of a demodulation method, a reception buffer size, a number of bits or codes that a processor can process per one operation, an error correction method and an interleaving length*,” as recited in Claims 1 and 4.

More specifically, Petrus describes that a modulation method is one of the transmission modes determined by the base station. In contrast, Claims 1 and 4 clearly recite that the reception ability value defines, *inter alia*, a demodulation method. Further, Petrus describes that only the signal quality and the available transmission power are used as parameters to determine a transmission mode, such as a modulation method.<sup>7</sup> As noted above, the quality of a signal is different from a reception ability, because the quality of a

---

<sup>4</sup> Petrus, Abstract.

<sup>5</sup> Id., Abstract and paragraph [0015].

<sup>6</sup> Id., paragraphs [0031-0032].

<sup>7</sup> Id., Abstract and Claim 29.

signal is influenced by propagation conditions between a base station and a remote terminal. However, a reception ability value, as define in Claims 1 and 4, is not influenced by the propagation conditions, but is instead a value reflecting the reception capabilities inherent to the mobile device.

Additionally, Applicants note that a modulation mode, as defined in Petrus may be considered analogous to one of the “transmission methods” as outlined in Claims 1 and 4. In contrast, a demodulation method of the present invention is not one of the transmission modes, but is instead one of the ***reception ability values*** used as a parameter to determine the transmission method.

Further, Petrus fails to teach or suggest “determining the transmission method in accordance with ***the reception ability value***... so that ***a mobile station equipped with a lowest reception ability can receive the information using the determined transmission method***,” as recited in independent Claims 1 and 4.

Therefore, Trossen and Petrus, neither alone, nor in combination, teach or suggest “collecting... a reception ability value of each mobile station belonging to a specific multicast group, ***wherein the reception ability value defines at least one of a demodulation method, a reception buffer size, a number of bits or codes that a processor can process per one operation, an error correction method and an interleaving length***” and “determining the transmission method in accordance with the reception ability value... so that ***a mobile station equipped with a lowest reception ability can receive the information using the determined transmission method***,” as recited in independent Claims 1 and 4.

Accordingly, Applicants respectfully request the rejection of Claims 1 and 4 (and the claims that depend therefrom) under 35 U.S.C. § 102(e) be withdrawn.

Consequently, in view of the present amendment and in light of the foregoing comments, it is respectfully submitted that the invention defined by Claims 1, 4, 6-7, 11 and 13 patentably defines over the applied references. The present application is therefore believed to be in condition for formal allowance and an early and favorable reconsideration of the application is therefore requested.

Respectfully submitted,

OBLON, SPIVAK, McCLELLAND,  
MAIER & NEUSTADT, P.C.

\_\_\_\_\_  
Bradley D. Lytle  
Attorney of Record  
Registration No. 40,073

\_\_\_\_\_  
Andrew T. Harry  
Registration No. 56,959

Customer Number  
**22850**

Tel: (703) 413-3000  
Fax: (703) 413 -2220  
(OSMMN 06/04)